

Impact of educational intervention regarding anaemia and its preventive measures among adolescent girls of Government Commerce College of Gandhinagar city, Gujarat, India

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Abstract

Background: Adolescent girls are at a high risk for anaemia and malnutrition.

Objective: To assess knowledge of adolescent girls regarding anaemia and its preventive measures before and after educational interventional training.

Material and Methods: The present study was an interventional study, undertaken in purposively selected Government Commerce College of Gandhinagar city during July–August 2016 by Department of Community Medicine, GMERS Medical College, Gandhinagar. Total 100 adolescent girls between the age group of 17–19 were included after written informed consent. Baseline knowledge of adolescent girls regarding anaemia and its preventive measures was assessed by pre-designed, pre-tested and semi-structured questionnaire. Single educational interventional training for 45 minutes was given to the selected adolescent girls. Post-intervention knowledge of students for the same was assessed after training. Thus collected data was analyzed using SPSS 17 (trial version).


Result: Baseline knowledge of the adolescent girls regarding causes, signs, and symptoms of anaemia and dietary sources of iron was 21%, 23%, and 40%, respectively which was significantly increased to 64%, 66%, and 72%, respectively after the intervention. Baseline knowledge of the adolescent girls regarding factors which inhibit and increase iron absorption was 25% and 4%, respectively which was significantly increased to 55% and 41%, respectively after the intervention. Baseline knowledge of the adolescent girls regarding treatment of anaemia was 30% which was significantly increased to 79% after the intervention.

Conclusion: There was a significant improvement in the knowledge regarding anaemia and its preventive measures among adolescent girls of college after our single educational session.

KEY WORDS: Prevalence, Anaemia, Adolescent Girls, Iron, Knowledge

Introduction

Adolescent constitute over 23% of the population in India. The high birth rate will continue to increase this number.

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Adolescence more broadly refers to the phase of human development which encompasses the transition from childhood to adulthood. This period is very crucial since these are the formative years in the life of an individual when major physical, psychological, and behavioral changes take place. The nutritional and the health needs of the adolescents are also more because of the growth spurt and the increase in physical activity in them.^[1]

In females, adolescence marks the beginning of the menstrual cycle or reproduction. Adolescents gain 30% of their adult weight and more than 20% of their adult height between 10 and 19 years, which we call as the growth spurt.^[2] Adolescent girls are at a high risk for anaemia and malnutrition. Inadequate

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nutrition during adolescence can have serious consequences throughout the reproductive years of life and beyond.^[3] Very often, in India, girls get married and pregnant even before the growth period is over, thus doubling the risk for anaemia.^[4] The nutritional anaemia in adolescent girls attributes to the high maternal mortality rate, the high incidence of low birth weight babies, high perinatal mortality, and the consequent high fertility rates.

As young people become increasingly independent, they face significant choices in areas such as diet, substance use, sexuality, physical activity, and use of health care services. College is a key location for educating adolescents about health, hygiene, and nutrition, and for putting in place interventions to promote the health of adolescents. Many adult health problems e.g. nutritional anaemia and iron deficiency anaemia have their early origins in early adulthood because this is the time when lifestyles are formed. In primordial prevention, efforts are directed towards encouraging adults to adopt healthy lifestyles. The main intervention in primordial prevention is through individual and mass education.^[5] With this background in mind, the present study was undertaken to know the impact of educational intervention regarding anaemia and its preventive measures before and after training among adolescent girls of Government Commerce College of Gandhinagar city.

Material and Methods

The present study was an interventional study undertaken in purposively selected Government Commerce College of Gandhinagar city during July–August 2016 by Department of Community Medicine, GMERS Medical College, Gandhinagar. Total 100 adolescent girls between the age group of 17–19 were included after written informed consent. Baseline knowledge of adolescent girls regarding anaemia and its preventive measures was assessed by pre-designed, pre-tested, and semi-structured questionnaire. The questionnaire was converted in vernacular language for assessment. Single educational interventional training for 45 minutes was given to selected adolescent girls with a lecture using Microsoft Powerpoint presentation, charts, demonstration, and discussion. Post-intervention knowledge of students for the same was assessed after training by the same questionnaire. Pre and post training assessment was done by the scoring method and also mean standard deviation, and Wilcoxon sign rank test was applied. Thus collected data was analyzed using SPSS 17 (trial version).

Results

The mean age of the girls was 18.6±0.6 years. Baseline knowledge of the girls regarding causes of anaemia was 21% which was significantly increased to 64% after the intervention (Figure 1). Baseline knowledge of the girls regarding signs and symptoms of anaemia was 23% which was significantly

increased to 66% after the intervention (Figure 2). Baseline knowledge of the girls regarding dietary sources of iron was 40% which was significantly increased to 72% after the intervention (Figure 3). Baseline knowledge of the girls regarding factors which inhibit the absorption of iron was 25% which was significantly increased to 55% after the intervention (Figure 4). Baseline knowledge of the girls regarding factors which increase the absorption of iron was 4% which was significantly increased to 41% after the intervention (Figure 5). Baseline knowledge of the girls regarding treatment of anaemia was 30% which was significantly increased to 79% after the intervention (Figure 6).

Discussion

In our study baseline knowledge of the girls regarding causes of anaemia was 21% which was significantly increased to 64% after the intervention. In Angadi N *et al.*^[6] study, 40% of the girls knew about anaemia. In Kotecha PV *et al.*^[7] study, 12.1% of the girls knew about causes of

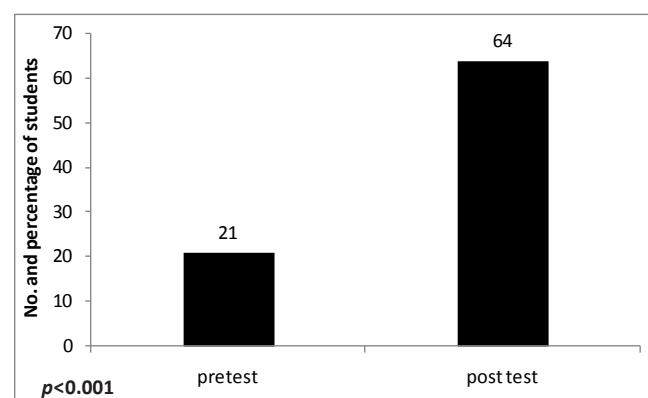


Figure 1: Distribution of the students according to their knowledge of causes of anaemia before and after training.

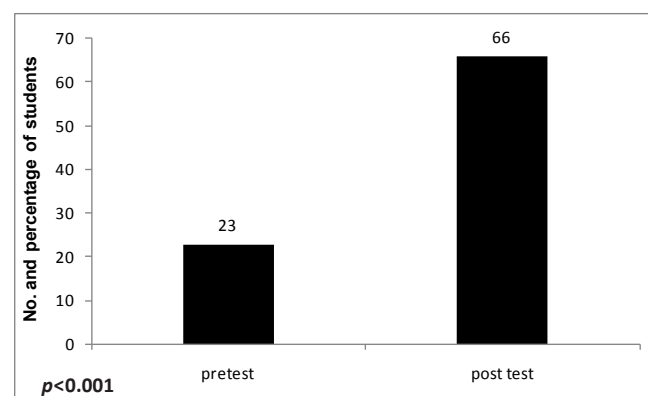


Figure 2: Distribution of the students according to knowledge regarding signs and symptoms of anaemia before and after training.

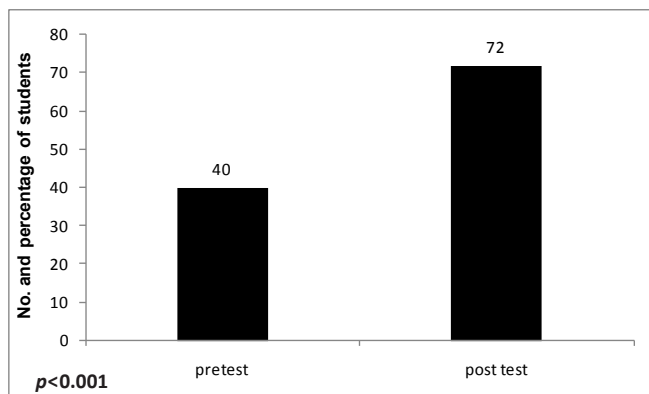


Figure 3: Distribution of the students according to their knowledge of sources of iron before and after training.

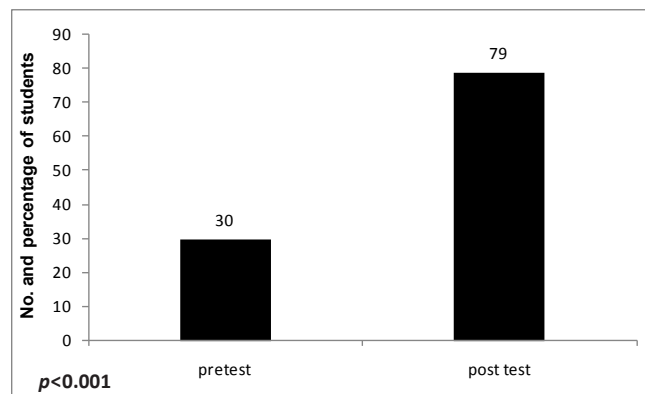


Figure 6: Distribution of the students according to their knowledge of the treatment of anaemia before and after training.

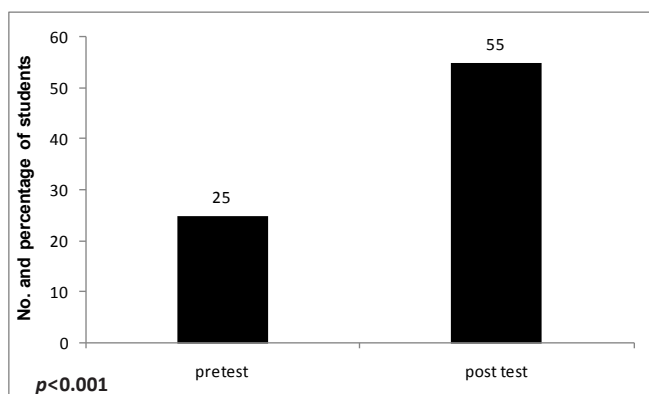


Figure 4: Distribution of the students according to their knowledge of factors which inhibit absorption of iron before and after training.

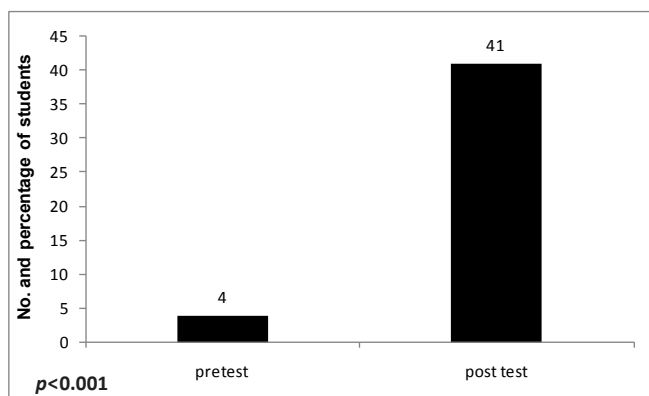


Figure 5: Distribution of the students according to their knowledge of factors which increase absorption of iron before and after training.

anaemia. In our study baseline knowledge of the girls regarding signs and symptoms of anaemia was 23% which was significantly increased to 66% after the intervention. This is higher than the study done by Angadi N et al.^[6] in which only

12% of the girls knew about multiple signs and symptoms of anaemia. In Kotecha PV et al.^[7] study, 44.2% of the girls knew about causes of anaemia.

In our study baseline knowledge of the girls regarding dietary sources of iron was 40% which was significantly increased to 72% after the intervention. In a study done by Angadi N et al.^[6] found that 44% of the adolescent girls knew about iron rich food and 56% subjects told that green leafy vegetables were the only source of iron-rich food. However, in a study conducted by Chakma et al.,^[8] 81.4% of the adolescent girls did not know that the anemia could be prevented or treated. In our study baseline knowledge of the girls regarding factors which inhibit the absorption of iron was 25% which was significantly increased to 55% after the intervention and baseline knowledge of the girls regarding factors which increase the absorption of iron was 4% which was significantly increased to 41% after the intervention. In a study done by Angadi N et al.,^[6] 43% of the adolescent girls told that tea and coffee, reduces iron absorption and 74% answered that vitamin C enhances iron absorption. These findings were higher than the study conducted by Kotecha PV et al.^[7] (37.3%). In our study baseline knowledge of the girls regarding treatment of anaemia was 30% which was significantly increased to 79% after the intervention. This finding was lower than the studies conducted by Angadi N et al.^[6] (55%) and Chakma et al.^[8] (65%).

However, the study done in a single college of Gandhinagar City, limits us to generalize the results. There is definitely a need for well-planned, large-scale studies using standardized methodologies to estimate awareness of youth regarding iron deficiency, anemia, and other micronutrient deficiencies. When planning these studies it is necessary to ensure that importance is given to the accurate evaluation of socio-economic status and representation of the different regions of India. A comprehensive study including anthropometric data, biochemical data, clinical signs of anaemia, and dietary intake data among the same group of adolescent girls will give a better insight into the situation.

Conclusion

There was a significant improvement in the knowledge regarding anaemia and its preventive measures among adolescent girls after our single educational session. Such education interventions are to be done on a regular basis to improve their knowledge and to encourage them to adopt healthy lifestyles which prevent anaemia and other micronutrient deficiencies among them.

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